OPTICAL FIBERS FOR THE HIGH-RES TV OF THE FUTURE

CONVERSION TO 4K CAMERAS TO CAUSE MASSIVE CHANGE IN NETWORK STRUCTURE

4K – the buzzword for realistic, impressive and ultra-high-resolution imaging worlds. The demand for series, movies and broadcasts in Ultra-HD resolution will increase sharply in the future. In order to meet this milestone of the new broadcasting quality, the German broadcasting station Mitteldeutscher Rundfunk has converted its camera systems to 4K in five TV studios. The new Sony cameras only have SMPTE interfaces, so the previous copper connection had to be changed to fiber optics

Challenges
- Flexible, future-proof cabling structure
- Short time slots the stepwise conversion of the studios

Key to success
- Use and production of multifunction cables
- Joint planning and close cooperation with the MDR
- SMPTE expertise in LEMO cable assembly

Studio MDR AKTUELL
Picture:©MDR Robert Hensel

Multi Fiber Cable
for the SMPTE camera signal, video signal, network, and power supply

THE FLEXIBILITY OF THE CABLE INFRASTRUCTURE WAS THE GREATEST CHALLENGE

As part of the conversion of the studio camera systems of the Mitteldeutscher Rundfunk, LWL-Sachsenkabel GmbH was entrusted with the production and supply of the required fiber optic infrastructure in cooperation with a local service provider. In addition to positive experiences with Sachsenkabel products in the past, the regional proximity and thus the close contact with all project contacts also played a major role in the cooperation for the Mitteldeutscher Rundfunk. Sachsenkabel accompanied the customer during the concept layout and also supported the technical implementation. A hybrid LEMO connector was used for camera connection. As a certified LEMO outfitter, Sachsenkabel was also able to impress with the highest quality standards and thus delivered an SMPTE-compliant system. For excellent shooting, the cameras must be able to move throughout the TV studio. In addition, the cameras have to be connected to several signals, which required an additional connection of power cables.

A multi-function cable was used to meet all these challenges. The compactness of the cable prevents multiple cables from having to be pulled over the sensitive studio floor (greenfloor) during the camera's movements. A multi-cable is a flexible mesh tube that contains multiple cables for the SMPTE camera signal, video signal, network, and power supply. The length of the multi-cables of up to 40 meters, in particular, required the production and logistics process to be planned in detail and the necessary premises to be adapted at Sachsenkabel. Another partner was brought on board for the assembly of the copper cables. This made it possible to deliver a ready-made multi-function cable with all required fiber optic and copper connections to Mitteldeutscher Rundfunk. Since the conversion of the five studios took place in different stages and only a short time slot was available for each, customer communication, production resources and logistics had to be precisely coordinated. By December 2020, all studios could be successfully adapted to the new 4K camera systems and infrastructures.

Multi cable, assembled

In the same month, the first program with the new system was broadcast. With the update of the infrastructure, Mitteldeutsche Rundfunk can now meet all future requirements of ultra-HD transmission. The MDR (Mitteldeutscher Rundfunk) was very satisfied with the project progress and with the result. Despite some short-term changes in technical specifications, Sachsenkabel reacted quickly and reliably from the customer's point of view and delivered in the expected high quality.

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